

Title: BRANCHED ALKYL-AROMATIC SULFONIC ACID DISPERSANTS FOR DISPERSING ASPHALTENES IN PETROLEUM OILS

Inventor(s): Ramesh Varadaraj et al. Attorney Docket No. RDH-0314

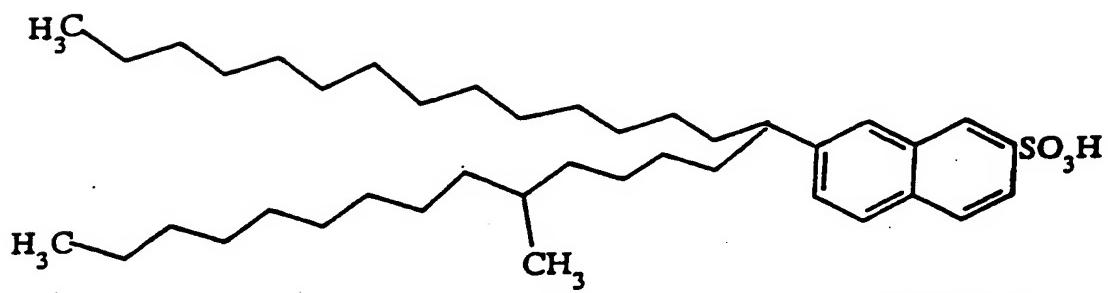
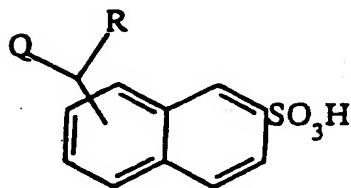


Figure 1. Structure of Iso-C₁₅-C₁₅ Naphthalene Sulfonic Acid



$$R + Q \geq 29$$

where R & Q are alkyl chains with at least one branched methyl or longer alkyl group for every 20 carbons

Figure 2. Preferred Asphaltene Dispersant Structure